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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,174	12/31/2003	Lukas Trosman	24GA127099	5555
33727	7590	11/03/2004	EXAMINER	
HARNESS, DICKY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			BEHREND, HARVEY E	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/748,174

Applicant(s)

TROSMAN ET AL. *CS*

Examiner

Harvey E. Behrend

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 8/9/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 7, 13, 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14, 15, 17-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/1/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. Applicants election with traverse of species I and A, in the 8/9/04 response is acknowledged. However, the Fig. 3 embodiment is clearly independent and distinct requiring separate considerations as evidenced for example by applicants claims 7, 13 which are solely directed to the Fig. 3 embodiment.

It is the examiner's position that the search and examination of all claims to all species would produce an undue burden on the examiner. However, as noted in the first full paragraph on page 3 of the 7/16/04 Office action, if applicant will admit on the record that the species within any designated grouping, are obvious variants of one another, the election of species requirement with regard to said designated grouping will be withdrawn.

Applicant lists claims 1-6, 8-12, 14-15, 17-20 as readable on the elected species. However, elected specie A is part of the Markush grouping in claim 21. Accordingly, claim 21 appears readable on the elected species.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-6, 8-12, 14, 15, 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague, indefinite and incomplete, particularly in regard to terms such as "adjacent", etc., which are relative, they can be given no definite meaning and accordingly they render the claims vague and indefinite and the metes and bounds

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thereof are undefined (it is noted that even in applicants copending case SN 10/748175, a distinction is made between “adjacent” and “immediately adjacent”).

Claims such as claims 1, 8, 17 for example, are incomplete for omitting essential elements, such omission amounting to a gap between elements. See MPEP 2172.01.

The omitted elements are the elements necessary to maintain the various fuel rods and water passages in their indicated disposed relationship to each other and to the channel.

Claims such as claim 1 and 17 are vague, indefinite and incomplete as to what all is meant by and is encompassed by the reference to a “water passage” since clearly, there are water passages adjacent and between all of the fuel rods in the fuel bundle.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 8-12, 14, 15, 17-21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by any of Orit et al, Koyama et al or Aoyama et al.

In Orit et al, note Figs. 15, 17, 18, 20, 21, 23 and cols. 12+.

In Koyama et al, note Figs. 1, 3, 9, 11, 12, 13, 14.

In Aoyama et al, note Fig. 14 and cols. 2, 6, 19, 20.

7. The references listed as documents 3-5 under "Other Documents" on the 6/4/04 IDS have not been considered as they are undated and the citations are hence incomplete.

8. The other references cited further illustrate pertinent art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harvey Behrend whose telephone number is (703) 305-1831. The examiner can normally be reached on Tuesday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-4195.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-1113.

Behrend/vs  
September 15, 2004

A handwritten signature in black ink, appearing to read 'H. Behrend', with a large, sweeping loop at the end.

HARVEY E. BEHREND  
PRIMARY EXAMINER